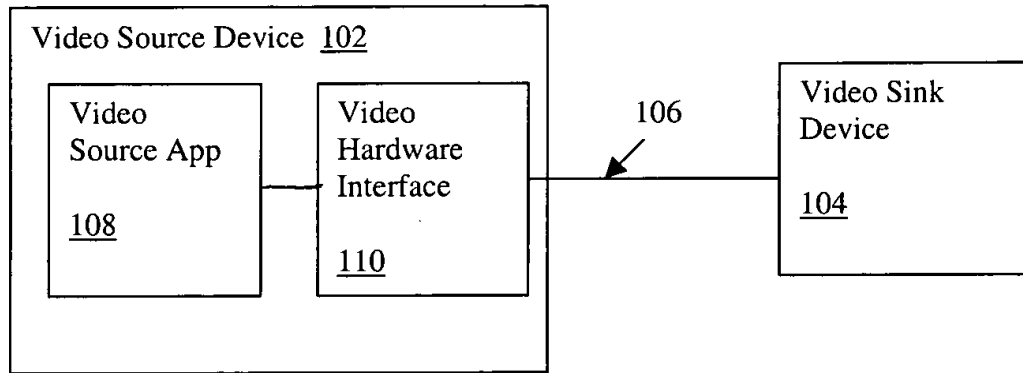






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**Figure 1**

Video Source Application		Video Hardware Interface
Generate $C_n$	$C_n, Ck_{sv}, C_{mode}$ 	Generate $K_u'$ ( $Ck_{sv}$ , $Dk_{sv}$ ) Generate $K_p'$ ( $K_u'$ , $C_n$ , $Bk_{sv}$ )
Generate $K_u$ ( $Ck_{sv}$ , $Dk_{sv}$ ) Generate $K_p$ ( $K_u$ , $C_n$ , $Bk_{sv}$ )	 $S', Bk_{sv}, Dk_{sv}$	Generate $S' = \text{status} \parallel K_p'$
Determine if $K_p = K_p'$		

Video Source Application		Video Hardware Interface
Generate $C_n$	$C_n, Ck_{sv}, C_{mode}$ 	Generate $K_u'$ ( $Ck_{sv}, Dk_{sv}$ ) Generate $K_e'$ ( $K_u', C_n$ )
Generate $K_u$ ( $Ck_{sv}, Dk_{sv}$ ) Generate $K_e$ ( $K_u, C_n$ )	$M', Dk_{sv}$ 	$M' = K_e' \text{ XOR } M_0'$
$M_0' = K_e \text{ XOR } M'$		

**Figure 2b**

Video Source Application	Video Hardware Interface
	$K_u' = \sum \text{Dkeys over } Ck_{sv}$ $K_1' = \text{OneWay-A}(K_u', \text{LSB40}(C_n))$ $K_2' = \text{OneWay-A}(K_1', Bk_{sv})$ $K_p' = \text{OneWay-A}(K_2', \text{status} \parallel \text{MSB24}(C_n))$
$K_u = \sum \text{Ckeys over } Dk_{sv}$ $K_1 = \text{OneWay-A}(K_u, \text{LSB40}(C_n))$ $K_2 = \text{OneWay-A}(K_1, Bk_{sv})$ $K_p = \text{OneWay-A}(K_2, \text{status} \parallel \text{MSB24}(C_n))$	

Video Source Application	Video Hardware Interface
	$K_u' = \sum \text{Dkeys over } Ck_{sv}$ $K_4' = \text{OneWay-B}(K_u', \text{LSB40}(C_n))$ $K_e' = \text{OneWay-B}(K_4', \text{MSB24}(C_n))$
$K_u = \sum \text{Ckeys over } Dk_{sv}$ $K_4 = \text{OneWay-B}(K_u, \text{LSB40}(C_n))$ $K_e = \text{OneWay-B}(K_4, \text{MSB24}(C_n))$	

### Figure 3b

**06-03-2020**

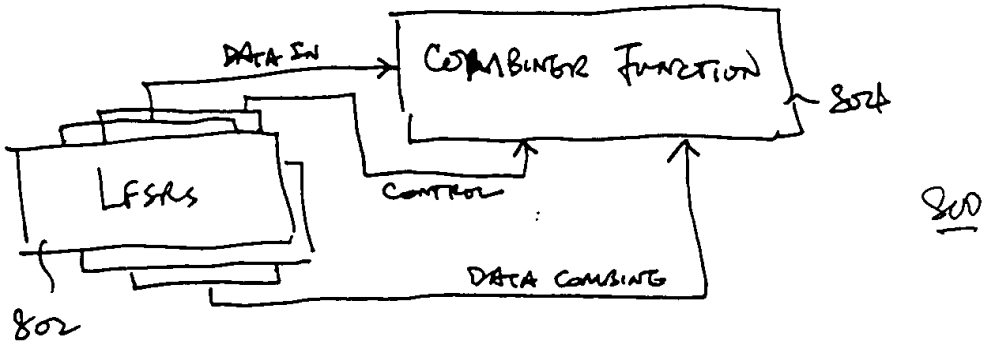


Fig. 4a

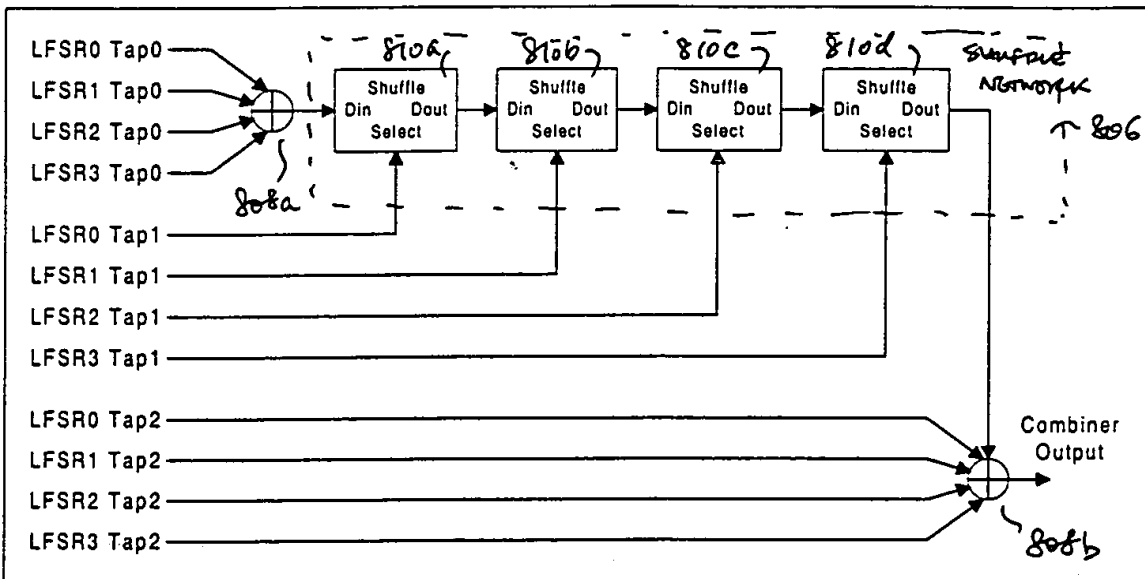


Fig. 4b

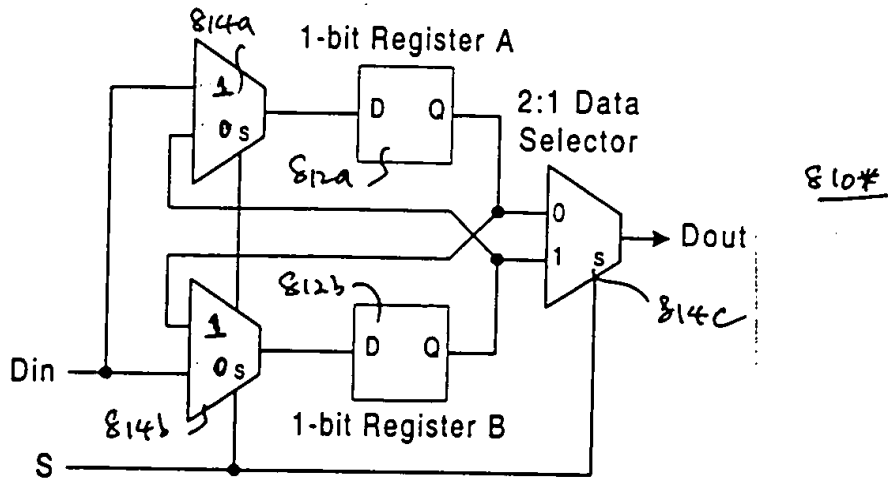


Fig. 4c